

**REMARKS/ARGUMENTS**

**Previously Submitted Amendment and Communication Regarding Noncompliant Amendment**

An Amendment mailed on August 15, 2003 (referred to hereinafter as the “Aug. 15<sup>th</sup> Amendment”) was previously submitted in response to the Office Action dated May 21, 2003. In a communication dated October 20, 2003, the Examiner states that the Aug. 15<sup>th</sup> Amendment does not comply with the requirements of 37 CFR 1.121(c) since the amendment does not indicate the changes that have been made *relative to the immediate prior version of the claims*. This Amendment is in response to both the communication dated October 20, 2003 and the Office Action dated May 21, 2003.

Applicants note that an Amendment was entered during prosecution of the underlying PCT application (hereinafter the “PCT Amendment”) and, that, the PCT Amendment and the resulting International Preliminary Examination Report (hereinafter the “IPER”) were inadvertently excluded from the present National Stage Application when filed with the United States Patent and Trademark Office. As such, the claims filed in the present National Stage Application are commensurate with the as-filed claims of the underlying PCT application (as if the PCT Amendment had never been entered).

In a telephonic conference between Examiner Cecil and Applicant’s undersigned Attorney on November 17, 2003, it was agreed that the amendments set forth in this response should be based on the *as-filed claims* of the PCT Application (which correspond directly to the as-filed claims of the present National Stage Application) and that a copy of the IPER and the PCT Amendment which, in part, served as the basis for the IPER, should be provided to the Patent Office to ensure completeness of the present application.

Therefore, in an effort to disclose all material which the Examiner might find relevant to the pending application and, to ensure that subject matter is made of record, Applicants submit the above-referenced IPER with attached Amended Sheets (submitted with the PCT Amendment)

as a Supplemental Information Disclosure Statement. Applicant respectfully requests that the Examiner make such information of record and return an initialed copy of the accompanying PTO-1449.

**Office Action Mailed October 20, 2003**

The remarks and arguments set forth below herein are more particularly directed to the Examiner's remarks in the Office Action mailed October 20, 2003. The Office Action mailed October 20, 2003, has been received and reviewed. Claims 1 through 25 are currently pending in the application. Applicant affirms the election to prosecute the invention of Group I, claims 1 through 12. Claims 13 through 25 are withdrawn as being drawn to a non-elected invention. Claims 1 through 12 stand rejected. Applicant has amended claims 1, 2, 4 through 6, 13 and 14, and respectfully requests reconsideration of the application as amended herein.

**Restriction Requirement/Election**

The Examiner states that restriction of the present application is required under 35 U.S.C. 121 and 372 as containing multiple inventions or groups of inventions which are not so liked as to form a single general inventive concept under PCT rule 13.1. Applicant hereby affirms the election to prosecute the invention set forth in group I, claims 1-12 with traverse.

With regard to the imposed restriction requirement, the Examiner states the following:

The inventions listed in Groups I [claims 1-12] and II [claims 13-25] do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

- The special technical feature (STF) of Group I is a plurality of injection devices spaced along an elongated passageway and having a flow control device for regulating a flow of disinfectant source and conduit arrangement.

- The STF of Group II is introducing a disinfectant into wastewater flowing through an elongate path and controlling the dosage of disinfectant to each of a plurality of dosing locations. (Office Action, page 3).

The Examiner further states:

The features that both groups [have] in common include spaced injection and flow control from a source of disinfectant. However these features are already known in the art—e.g. the British Reference 1,263,916. [Therefore], those features do not define a contribution over the art and unity of invention is lacking. (Office Action dated May 21, 2003, pages 2 and 3).

Applicant submits that restriction is not proper under PCT rule 13.1 and 13.2 and that the inventions set forth in Groups I and II are directed to a single general inventive concept and share corresponding special technical features.

The Examiner acknowledges that both groups of inventions have common features which include a source of disinfectant and flow control of such disinfectant. Furthermore, the Examiner notes (in assessing what the Examiner deems to be the special technical features) that each Group of inventions contain the following:

**GROUP I**

**GROUP II**

...a plurality of injection devices...	...dosage of disinfectant at <i>a plurality of dosing locations...</i>
...an elongated passageway...	...wastewater flowing through <i>an elongated pathway...</i>
...a flow control device for regulating flow of disinfectant...	...controlling the dosage of disinfectant...

(See Office Action dated May 21, 2003, page 2, numbered paragraph 2).

Applicant submits that there is general correspondence regarding the above-listed subject matter of the two groups of inventions. Applicant further submits that the invention of Group I includes the following subject matter: “the at least one flow control device is configured to provide *a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream therefrom.*” (Claim 1). The invention of Group II includes the following similar or corresponding subject matter: “controlling a dosage of disinfectant to each of the plurality of dosing locations *wherein each dosage of disinfectant is less than a dosage of disinfectant introduced into the waste water at a dosing location upstream thereof.*” (Claim 13).

Applicant, therefore, submits that the inventions set forth among Groups I and II, as identified by the Examiner, relate to the same general inventive concept under PCT Rules 13.1 and 13.2 and respectfully requests reconsideration and withdrawal of the restriction requirement and examination of claims 13-25 on the merits. Applicant respectfully submits that claims 13-25 are allowable over the references of record herein.

### **Oath/Declaration**

The oath or declaration has been objected to as being defective. Applicant previously submitted (with the Aug. 15<sup>th</sup> Amendment) a newly executed declaration which includes both residence and mailing addresses for the inventor. Applicant respectfully requests that the newly executed declaration be entered of record.

Applicant encloses a *copy* of the newly executed declaration herewith for the convenience of the Examiner.

### **Drawings**

The drawings have been objected to as failing to show reference numeral “5” as mentioned in the disclosure. Applicant has amended the specification to remove the reference numeral “5” and, therefore, submits that no drawing corrections are required.

### **35 U.S.C. § 112 Claim Rejections**

Claims 4 through 6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. More particularly, the Examiner states that the phrase “each of the flow control devices” in claim 4, line 2, lacks proper antecedent basis.

Applicant has amended claim 4, as well as claim 1 from which claim 4 depends, to recite “at least one flow control device” and remove any perceived ambiguity in the claim language.

### **35 U.S.C. § 102(b) Anticipation Rejections**

#### Anticipation Rejection Based on U.S. Patent No. 4,997,574 to Sarunac

Claims 1 through 5, 7, 9, and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sarunac (U.S. Patent No. 4,997,574). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1, as amended herein, is directed to an apparatus for disinfection of waste water. The apparatus comprises: an elongated passageway; at least two injection devices respectively located at spaced dosing locations along the passageway for introduction of a disinfectant to a stream of waste water flowing through the passageway; a source of disinfectant; a conduit arrangement extending between the disinfectant source and each of the dosing locations; and at least one flow control device positioned to regulate flow of disinfectant to each of the at least two injection devices through the conduit arrangement wherein *the at least one flow control device is configured to provide a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream*

*therefrom.* Applicant submits that Sarunac fails to teach all of the limitations as set forth in claim 1 of the presently claimed invention.

The Examiner cites Sarunac as disclosing a system comprising: a plurality of injection devices (25) spaced along an elongated plow path of a contact tank; a source of chlorine a conduit arrangement in communication with the chlorine source; and flow control devices (65, 75) operably coupled to a controller (60, 70). However, the Examiner does not cite Sarunac as teaching, nor does Applicant find a teaching in Sarunac regarding, the at least one flow control device being configured to provide a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream therefrom. As such, Applicant submits that claim 1 is not anticipated by Sarunac and respectfully requests reconsideration thereof.

Applicant further submits that claims 2 through 5, 7, 9, and 10 are allowable over Sarunac by virtue of their dependency from an allowable base claim, as well as for the additional patentable subject matter introduced thereby.

With respect to claim 10, Applicant submits that Sarunac fails to teach a source of dosing liquid in communication with the source of disinfectant.

Applicant, therefore, respectfully requests reconsideration and allowance of claims 1 through 5, 7, 9 and 10.

Anticipation Rejection Based on British Patent No. 1 263 916

Claims 1, 4, 7, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by British Patent No. 1 263 916 (hereinafter the '916 reference). Applicant respectfully traverses this rejection, as hereinafter set forth.

The Examiner cites '916 reference as disclosing a system for disinfecting wastewater comprising a plurality of evenly spaced metering points D for injecting a disinfectant in the flow path of a paper machine. The Examiner further cites the '916 reference as disclosing a control unit C which communicates with valves (1-6) to control the dosing of disinfectant from a tank T. However, Applicant submits that the '916 reference fails to teach that *the at least one flow*

*control device is configured to provide a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream therefrom.*

Rather, it appears that the teachings of the '916 reference are contrary to the subject matter set forth in claim 1 of the presently claimed invention. For example, with reference to FIG. 3, the '916 reference states that “[q]uantities of slime-inhibiting substance are dispensed at metering points D1 to D4.” ('916 reference, page 2, lines 120-122). The graph shown in FIG. 3, to which the above statement refers, indicates that the quantity of slime-inhibiting substance being introduced is equivalent at each dosing point (D1-D4).

Applicant, therefore, submits that claim 1 is clearly not anticipated by the '916 reference. Applicant further submits that claims 4, 7, and 8 are allowable at least by virtue of their dependency from an allowable base claim. Applicant respectfully requests reconsideration and allowance of claims 1, 4, 6 and 8.

Anticipation Rejection Based on U.S. Patent No. 3,760,829 to Schuk et al., as Evidenced by U.S. Patent No. 3,732,164 to Pressley et al.

Claims 1, 2, 4 through 6, and 10 through 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schuk et al. (U.S. Patent No. 3,760,829), as evidenced by Pressley et al. (U.S. Patent No. 3,732,164). Applicant respectfully traverses this rejection, as hereinafter set forth.

The Examiner cites Schuk as disclosing a system for disinfecting wastewater comprising a plurality of injectors spaced along a flow path in communication with a chlorine supply. The Examiner further cites Schuk as disclosing the dosing of chlorine to be controlled by valves (9 and 15) which are coupled to a control system and which are controlled in response to outputs from sensors (4, 5, and 12). The Examiner cites Pressley, which Schuk incorporates by reference, for the use of injectors. However, Applicant submits that Schuk fails to teach that *the at least one flow control device is configured to provide a lesser regulated flow of disinfectant through each*

*injection device than a regulated flow of disinfectant through an injection device located upstream therefrom.*

Applicant notes that Schuk discloses two different injection points for injecting chlorine (i.e., through valves 8 and 15 as shown in FIG. 2), with the first dosing location (valve 15) being used to “predose” the wastewater with chlorine and thereby alter the alkalinity thereof prior to introduction of chlorine through the second dosing location (valve 9). However, Applicant submits that Schuk fails to teach that the dose of chlorine being supplied through the second dosing location (valve 9) is less than that which is supplied through the first dosing location (valve 15). (See, e.g., col. 5, line 47 through col. 6, line 29).

Applicant, therefore, submits that claim 1 is clearly not anticipated by Schuk and respectfully request reconsideration thereof.

Applicant further submits that claims 2, 4 through 6, and 10 through 12 are allowable over Schuk by virtue of their dependency form an allowable base claim, as well as for the additional patentable subject mater introduced thereby.

With respect to claim 12, Applicant submits that Schuk fails to teach a post-treatment unit positioned downstream of the passageway, the at least one post-treatment unit being operable to further treat the wastewater discharged from the passageway.

Applicant, therefore, respectfully requests reconsideration and allowance of claims 1, 2, 4 through 6, and 10 through 12.

### ENTRY OF AMENDMENTS

The amendments to claims 1, 2, 4 through 6, 13 and 14 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

### CONCLUSION

Claims 1 through 25 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



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